

Minutes for May 3, 2005 Conference Call Dakotas Wind Transmission Study

Introductions were made of all participants. The attendees are listed at the end of this document. The agenda has been expanded to include the relevant points made under each item.

I. Review Action Items from Technical Review Meeting #2

- A. Tom Wind, Brian Parsons, and other meeting participants will provide feedback to Michael to improve the cost analysis.

This has not been done. It was determined to leave the costs out of the report and just use relative ranking.

- B. Michael Brower will check the simulated data sets to see if conclusions can be drawn relative to east-west and north-south geographic diversity benefits.

This was done and is in the report.

- C. Matt Stoltz will check to see if annual hourly data sets are available from the two 40 MW FPL wind projects for use in validating the data.

Graphs were provided, but not the base data. During the conference call it was mentioned that validation was not as critical on the weather side.

- D. Don Martin will provide a list of the regions and generators that were used as sinks.

This will be included in the final report.

- E. Don will statistically quantify this correlation (hourly deviations).

Still needs to be completed.

- F. Don will confirm that an adjustment has been made to ensure this alignment (weekends between 2002 and 2003)

The weekends were not matched up between 2002 and 2003 data.

- G. Don will also provide a “bookend” for the possible loading on the study interfaces from the new wind generation by directly comparing the simulated 2003 wind generation to the actual 2003 flows on the study interfaces.

This was done in section 4.2 of the report.

- H. Tom Wind, Matt Stoltz, and Ed Weber / Steve Sanders will look into and resolve this question. (About NDEX)

After the conference call, Ed indicated that the 1950 is correct but has a TRM associated with it. This value varies. It can probably be defined as a percentage of the total for the purposes of this study.

II. Review of Task 1 - Analyze Non-Firm Transmission Potential Relative to New Wind Generation

A. Review overall draft report

Don will add more details and clarify some of the issues. He will also cleanup the Ellendale versus Leland Olds labels. As mentioned above, the report needs to quantify the validation between measured and actual data.

B. AWS Truewind report – to be sent out Monday prior to conference call

Participants were going to review the report and direct all comments to the entire group. The costs are going to be pull out of the tables (See I-A above)

C. Section 4.2 of report – Measured flows plus wind

ABB needs to run the high hydro case at Fort Thompson. In addition, the high hydro case needs to be run for Watertown. It was the general consensus that it all of the generation flows over NDEX then section 4.2 covers that contingency. Don will expand section 4.2 to include additional details.

D. Section 4.1 of report – Gridview results

It was felt that the sites with distributed flows need to be studied in Gridview and to determine if Gridview is capturing what is really happening. ABB does have information regarding the average flow which impact which interfaces. Don Martin will try to make this more prominent in the final report.

E. Western 2003 Load Data

It was discussed that the 2003 load data covers all of SD and most of ND except for Ottertail. The load does not match up completely. The comment was made that the 2002 data is more complete.

F. Discuss Participant Comments (listed below)

- What about the locations where the flow does not go over the NDEX?

- How much does the specific hourly distribution of wind power flow vary across the constrained paths throughout the year? If the flow directions for a given plant only change slightly, I wouldn't worry so much about actual matching. If flow distributions are strongly dependent on load and other generation, then grid view validation is much more important. Perhaps the current runs could be examined to gain some insight.

- Is there a chance to try and get actual 2003 load data, even for a partial year? Peak path loading times would be most important. The analysis would be much sounder.

- Some discussion of big-picture bounding of loadings might be helpful. Taking actual loadings for 2003 and seeing how many hours a base loaded 500 MW plant would be curtailed might help.

- If we must rely on 2002 scaling, some specific validation work needs to be done. The review group commented heavily that side-by-side plots of scaled 2002 simulations without wind and actual 2003 loadings were not useful beyond feeling OK about general amplitude of variations and overall shape. Specific correlations and comparisons of hourly values are needed.

- The current draft presents numerous loading profiles near the end. A single table summarizing results would allow easier cross comparison of results.
- Reference in the draft report should be to "Dakotas Wind Transmission Study" Not "Dakota Wind Transmission Study".
- Report pages should be numbered.
- Section 2.1 -- NREL should be spelled out in the first usage of this acronym.

III. Review of Task 3 – Interconnection of new wind generation (7 Sites)

A. Status

Now, ABB is using Rate B which relates to the conductor rating rather than CT ratings etc. ABB will include a discussion of the rating levels in the report. Preliminary data should be ready by May 19th.

B. Additional SIS Work

IV. Review of Task 2 – Assess Potential of Transmission Enhancement Technologies

- A. Results from Gridview for Evaluation
- B. Results from Site Impact Study for Evaluation

From Task 3, ABB is identifying transmission lines to be upgraded and areas which need additional reactive power. This section will not be completed by the May 23-24 meeting.

V. Review of Task 4 – Study the Delivery to Market of New Wind Generation

To be started the week of May 9th. Results will not be ready for May 23-24 meeting.

- VI. Schedule – In light of the fact that Tasks 2 and 4 will not be more complete by the May meeting and that the final report is not due until September, it was decided after the conference call that the 3rd Technical review session should be postponed until mid-July. The notice regarding the change is located at the following website:

<http://www.wapa.gov/ugp/study/DakotasWind/StudyReview3/reschedule.htm>

Cristy is going to email the participants and get a consensus on the date for the 3rd Technical Review Session. The revised date will then be emailed out to all participants.

Adjourn

Conference call participants

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